

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

In The Name Of ALLAH

The Most Gracious, The Most Merciful



Armed Forces College of Medicine AFCM

**Endocrine & Urogenital
Module**



Contraceptives

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INTENDED LEARNING OBJECTIVES (ILO)



1.

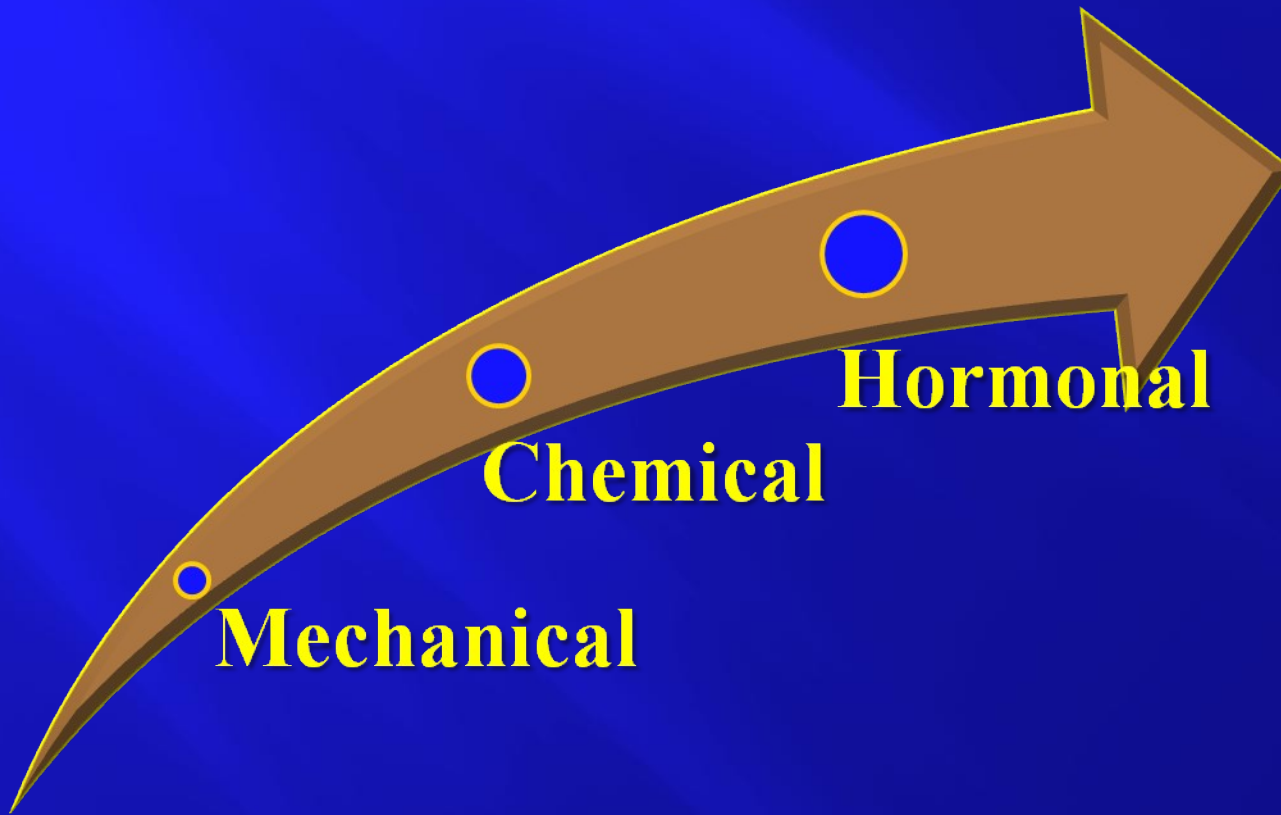
2. Describe the mechanism of action and adverse effects of

3.

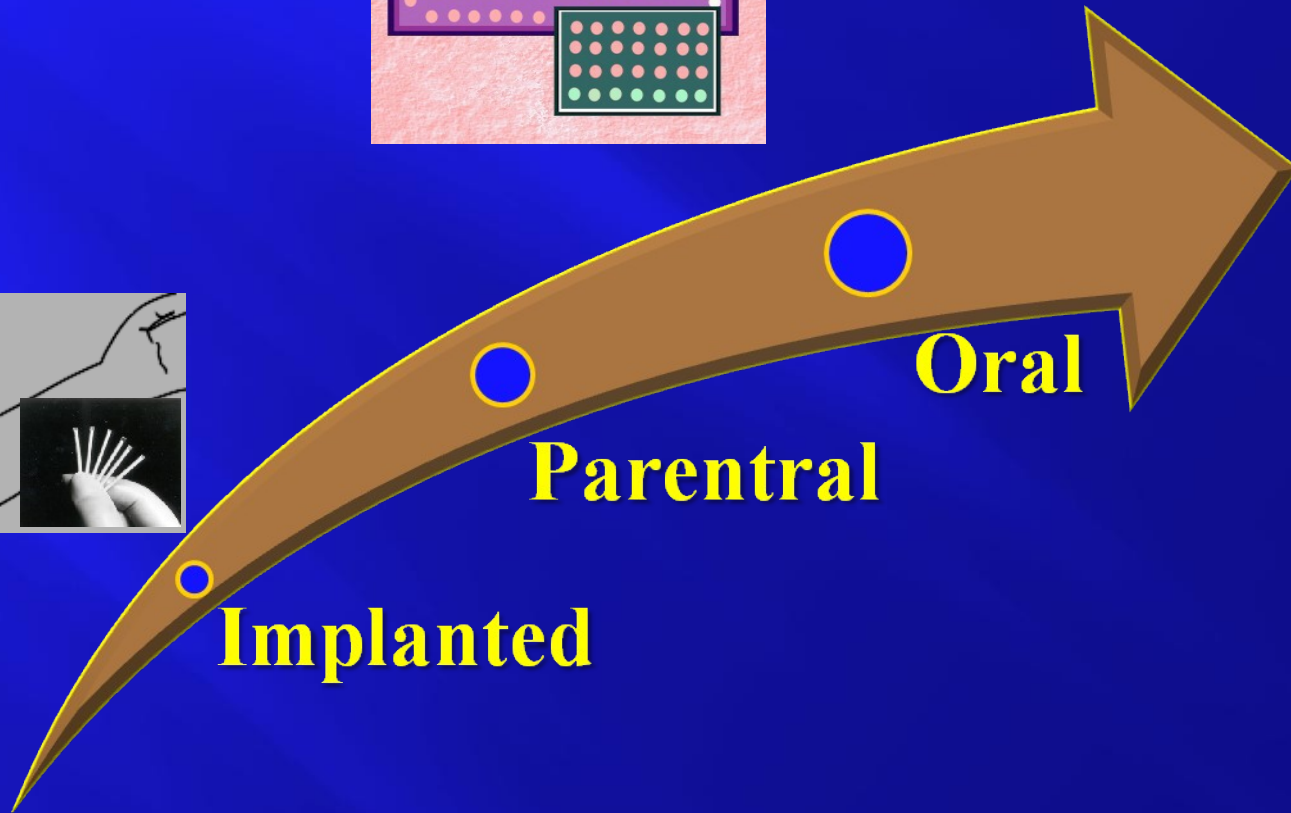
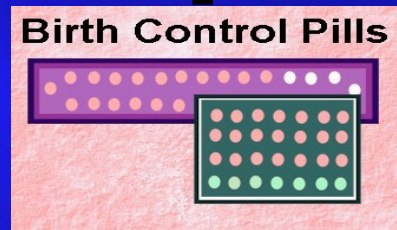
Contraceptives

Contraception

It may be **n**



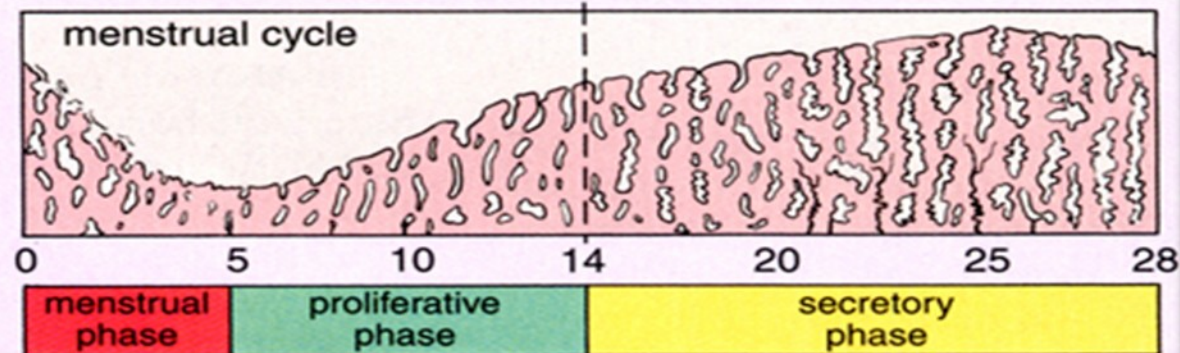
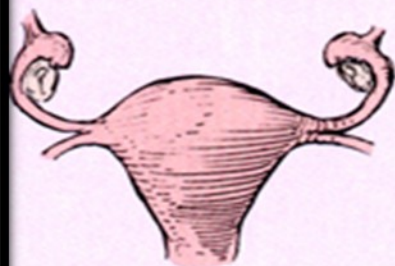
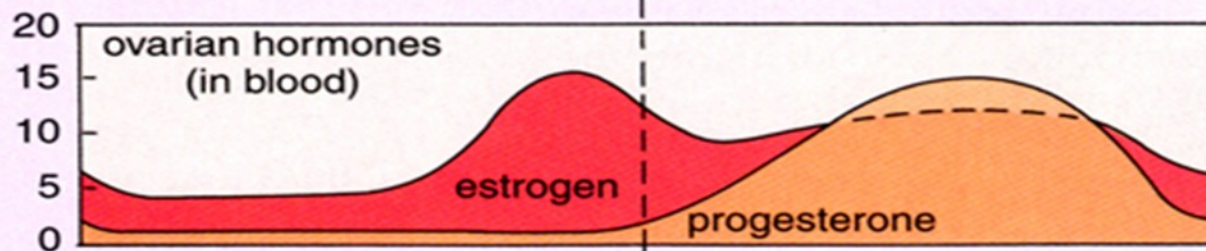
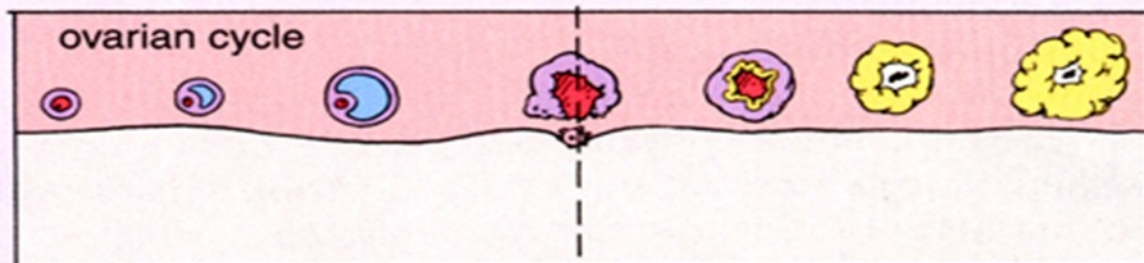
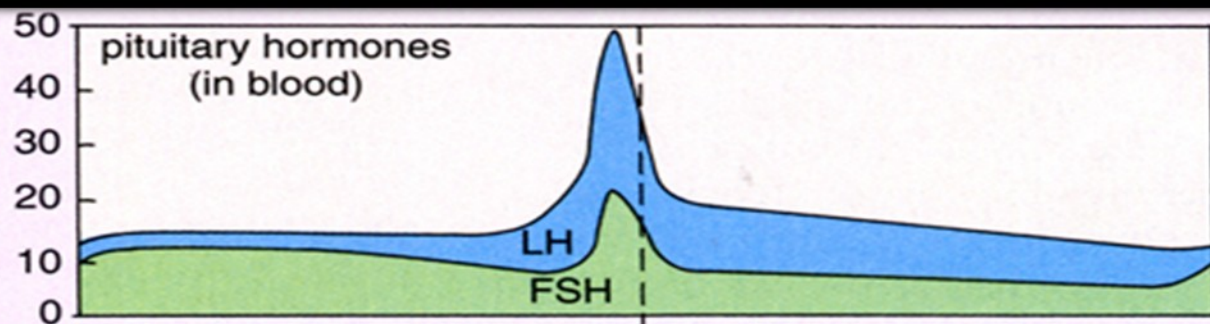
Hormonal Contraception



Implanted

Parental

Oral



Oral

Contraception



1-Combined method: estrogen + progestins

:Tablets given orally for 21 days
.starting from 5th day of cycle

A- Monophasic combination tablets

ethinyl estradiol 0.03 mg with

norethindrone 0.5mg

B- Biphasic combination tablets

➤ From day 1-10

(ethinyl estradiol 0.03 mg with

norethindrone 0.5mg)

➤ From day 11-21

(ethinyl estradiol 0.03 mg with

norethindrone 1 mg)

1-Combined method



C-Triphasic combination tab

- Mimic the the natural female menstrual cycle, most contain a **constant dose of estrogen** with **increasing doses of progestin** given **over three successive 7-day periods**
- for a **total** regimen of **28 days**.
- **Active pills** are taken for **21 to 24 days**
- followed by **4 to 7 days of placebo**
- Withdrawal bleeding occurs during the hormone-free (placebo) interval

Progestin -2 only

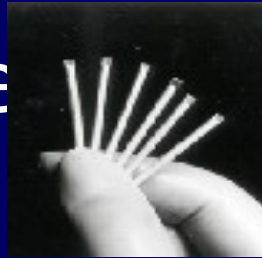


Containing progestin
:Orally

□ Norethindrone (**Mini-pill**) 0.35mg oral continuously

Injectable :

□ Medroxyprogesterone 150mg I.M. every 3 months



:Implants

□ Norgestrel 6 C Implantation lasts up to 5

Post-coital (emergency)-3 contraceptive

Following coitus (morning after
contraception)

■ Estrogen alone:

■ ethinyl estradiol



mg twice daily for 5 days within 72 hrs(3days)of coitus

OR :

■ Estrogen combined with progestins

ethinyl estradiol 0.05mg + norgestrel 0.5mg
tablets immediately after coitus and 2 2

Mifepristone 200 mg once + Misoprostol
400 µg once

(Progesterone antagonist)

(PE

Mechanism of action

a) Estrogens

.□ Inhibit FSH → ↓ ovulation

□ Large dose of estrogen (postcoital pills)

→ Increase motility of oviduct & endometrial changes →

↓ fertilization & implantation → Withdrawal bleeding

b) Progestin → expel fertilized ovum

Inhibit LH → ↓ ovulation

↑ viscosity of cervical mucus so impair penetration of sperms

Mechanism of action

■ Small dose of progestins

(minipill)

- Does not inhibit ovulation
- Does not inhibit the cycle
- Does not inhibit lactation
- Mechanism of contraception →
thick cervical mucus & endometrial
changes

Adverse effects

The most common adverse effects:

- 1) Headache, and nausea
- 2) Fluid retention → Weight gain & Increased blood pressure may also occur
- 3) Breast fullness & mastalgia.
- 4) Progestins may be associated with:
 - depression, changes in libido, hirsutism, and acne.
 - Break-through bleeding (common with progestogens alone
 - or low dose combination method)

Severe adverse effects: Although rare

- 1) Thromboembolism, myocardial infarction, and stroke

(most common among women who are over age 35 and

Contraindication :

- 1) the presence of cerebrovascular and thromboembolic disease
- 2) patients over the age of 35 who are heavy smokers
(Combination oral contraceptives should not be used)
- 3) estrogen-dependent neoplasms.
- 4) liver disease.
- 5) pregnancy.

.....

6) Drugs that induce the CYP3A4 isoenzyme (for example, rifampin) which significantly reduce the efficacy of oral contraceptives.

7) Antibiotics that alter the normal gastrointestinal flora may reduce enterohepatic recycling of the estrogen component of oral contraceptives, thereby diminishing their effectiveness.

Other methods for contraception

Chemical contraceptives(local):

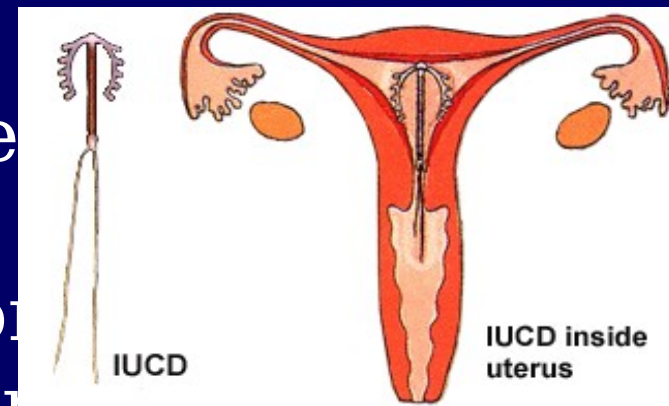
by spermicidal drugs in vagina.

Dosage form: Cream, pessary, jell & foaming tablets.

Mechanical methods

➤ as condom in males, vaginal diaphragm or cervical cap in females.

➤ Intrauterine device which is impregnated with barium to be radio-opaque. It acts by interfering with implantation or enhancing phagocytosis of ovum.



Mention:

- 1)Types of oral contraceptives.**
- 2)The most important adverse effects & contraindications of oral contraceptives**
- 3) The most important SERMs and their therapeutic uses**

SUGGESTED TEXTBOOKS



1.

2. Katzung BG, Trevor AJ. (2018). Basic & Clinical Pharmacology (14th edition) New York: McGraw-Hill Medical.



**THANK
YOU**